DPB AGENDA: 08-07-13
ITEM: 5

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: DOWNTOWN PARKING BOARD **FROM:** Joe Garcia, DOT

SUBJECT: ON-STREET SMART METER REPORT **DATE:** 07-30-13

RECOMMENDATION

Conceptual approval of the following recommendations that are intended to contribute to the goals of improved customer access to and convenience in parking Downtown, ensure that any broad scale implementation of Smart Meters is financially sustainable, and enhance the capacity of the Parking Fund to support debt service payments of the 4th and San Fernando Garage:

1. Install Smart Parking Meters in the Downtown Core for the area bounded by St. James St, Fourth St, San Salvador St, and Highway 87 and establish a new rate of $2 per hour for meters within this boundary; and retain the current $1 per hour for the remaining meters.

2. Provide feedback on extending the operational hours of Smart Meters from 6 PM to 8 PM for the area bounded by St. John St, Market St, San Carlos St and Highway 87.

3. Conduct a Pay-by-Cell mobile payment pilot with the Smart Meters to assess customer benefits, usage and operational impacts of this payment option.

4. Establish a Convention Center Meter District, install Multi-Space Pay Stations on segments of Almaden Blvd. and Woz Way, and establish a meter rate range of $0 to $25 per day.

BACKGROUND

Existing Meter Technology in San José

There are currently 2,574 on-street metered spaces located within the City: 2,412 are controlled by single-space coin operated meters; and 162 are controlled by 16 pay-by-space pay stations supporting the Arena/Diridon area. These metered spaces are located within five general geographic areas: Downtown Core (1,122), Downtown Perimeter (795), Japantown (217), Old Civic Center (278), and Arena/Diridon (162).

Although the majority of the Parking Program's meters were upgraded to electronic technology in the past ten years, the current meters can not accept credit cards, have limited reporting capabilities and require a labor intensive process to obtain revenue data. Additionally, the current meters are powered by a standard 9-volt battery that require replacement on an almost semi-annual basis, involving the purchase and disposal of nearly 5,000 batteries annually.

Lastly, while meter malfunctions are usually addressed within 24 hours, malfunctions can go undetected longer, resulting in meter down time, lost revenue, and poor customer service.

It is important to recognize that on-street parking spaces are the most visible and most convenient parking for visitors to the Downtown. The current $1 per hour meter rate that has been in effect since 2002, is not priced consistent with the value provided by these premium spaces and is significantly lower than the rate charged in off-street facilities. However, adjustments to the on-street rate structure are limited by the current technology.

Smart Meter Pilot

Staff initiated a Smart Meter pilot in February 2013 to test and analyze meter reliability, costs, revenue potential, customer perception, impacts on parking compliance operations, and the usefulness of increased data transmitted with single-space credit card enabled meters and parking sensors. The pilot area included 61 metered spaces on Park Avenue and Market Street around Cesar Chavez Park, with 20 of these spaces augmented with sensors that tracked occupancy and provided for clearing any time left on the meter when the space was vacated (Attachment A).

ANALYSIS

Smart Meter Pilot Results

Staff collected a variety of data before and during the five-month pilot, with a focus on meter revenue, parking occupancy levels, customer input, and impacts on parking compliance operations. The results of the pilot are summarized in the key areas below:

Reliability: The Smart Meters proved to be extremely reliable with over 99% uptime.

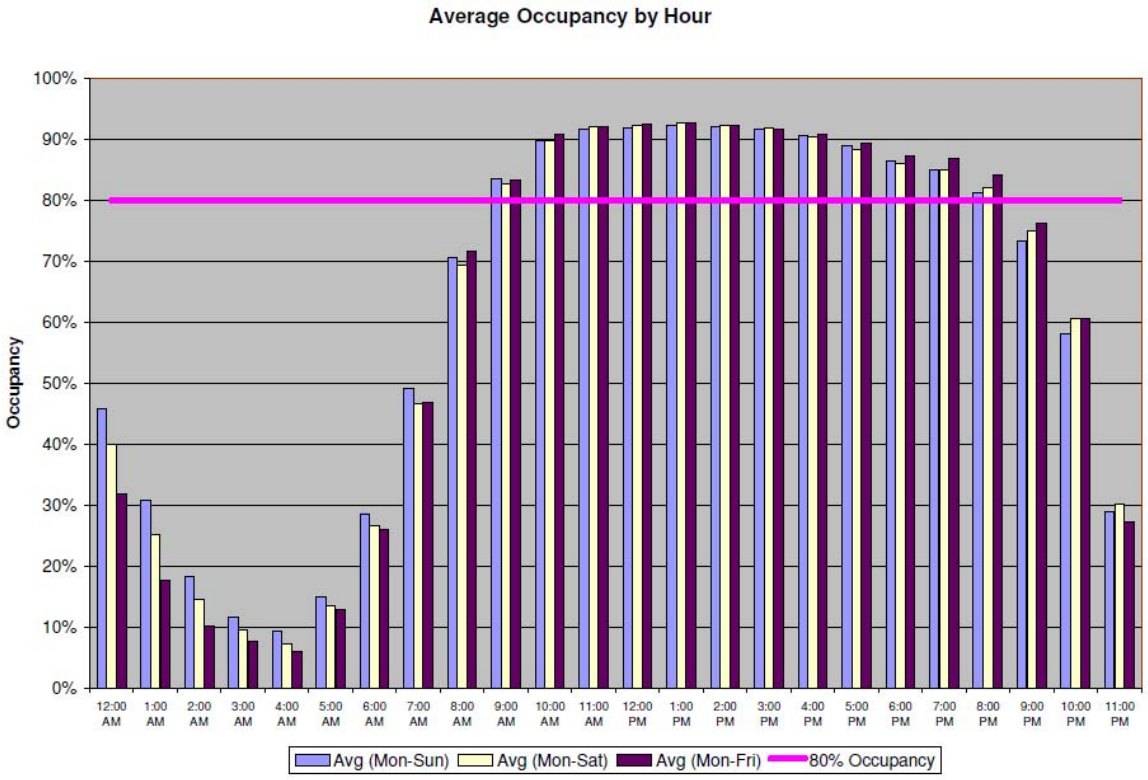
Real-time Notification of Maintenance Issues: Staff received real time notifications of coin blockages and any card reader blockage/error in real-time, ensuring that staff was aware of every potential problem, with fixes occurring frequently the same day.

Customer Service: A survey conducted with 92 users of the new meters (Attachment B) identified that an overwhelming majority were satisfied or very satisfied with the new credit card enabled meters and supported the installation of Smart Meters in other areas (87%), with 81% rating use of the meters as easy. Although a majority (82%) used cash during their parking stay when surveyed, 36% indicated that their preferred method of payment was by credit or debit card. Other customer oriented benefits of Smart Meter Technology include:

- Pre-payment feature to allow customers to pay for their parking before meter operations begin. For example, a morning customer can pay for two hours of parking at 8AM, but the meter will apply the payment to the start of the meter operations at 9AM.
- The configurable meter display can be programmed to display “FREE PARKING” on Sundays and City holidays to supplement posted signs.
- When combined with mobile payment technology, the Smart Meters can display parking time paid for remotely.

Meter Revenue: Overall, daily revenue increased on average between 10-20% with the Smart Meters in the pilot area, with the higher percentage associated with meters augmented with parking sensors.

Occupancy: During the pilot, the meter locations with sensors averaged over 80% occupancy between 9 AM and 8 PM everyday including weekends, as displayed in the chart below.

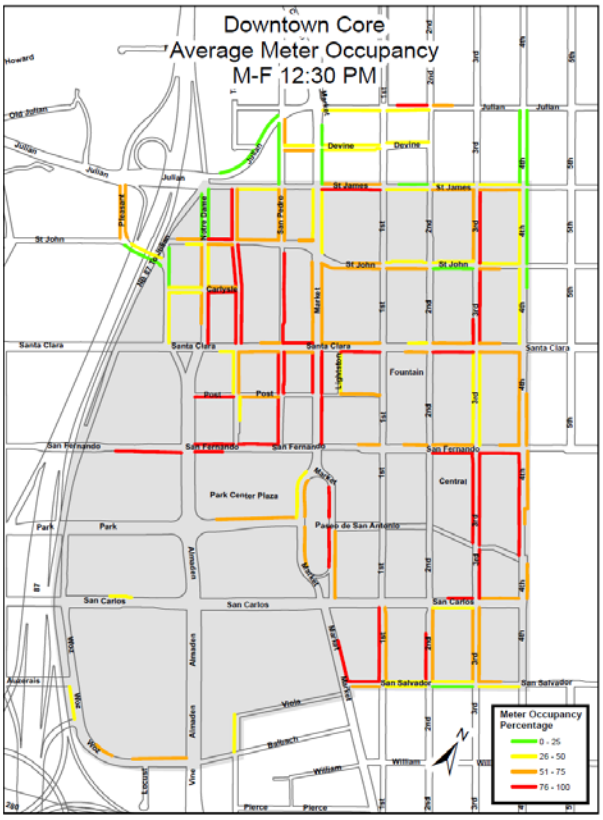


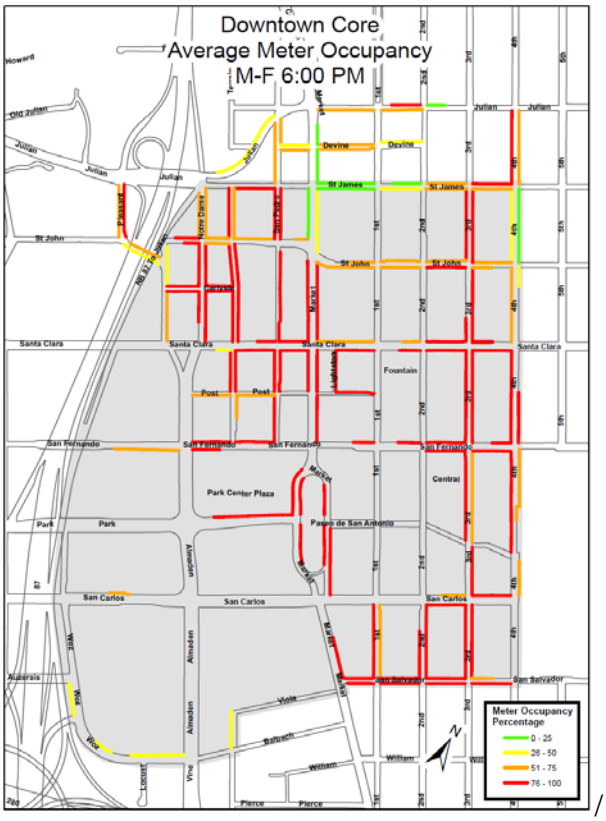
Parking Compliance Operations: The meter LED indicator lights both curbside and street side were easier to see due to the size and brightness of the lights. This improved visibility allowed PTCOs to efficiently patrol for compliance of the parking meters regardless of their mode of transportation (walking, biking or driving).

Downtown Core Smart Meter Implementation

Staff recommends that all 1,122 meters in the Downtown Core be upgraded to the new Smart Meter technology. This area was selected due to the compact nature of the area, and relatively high occupancy during the day and evening hours as highlighted on the following maps. The maps represent occupancy data for each block face in the Downtown Core at 12:30 PM and 6:00 PM, with red lines representing metered spaces occupied 76% to 100% of the time.

Downtown Core Average Meter Occupancy





Capital Cost: The estimated cost to purchase and install Smart Meters is $500 per meter with an additional $300 per sensor. The overall cost to upgrade all of the existing 1,122 meters in the Downtown Core with the credit card enabled meters and sensors, and provide for a modest inventory of spare parts is approximately $970,000. Incorporating the installation of 56 Smart Meters on Almaden Blvd between Santa Clara St. and San Carlos St. would increase the cost estimate by $70,000

Projected Annual Net Revenue: Based on the experience with the pilot, it is anticipated that installing Smart Meters and sensors will result in a 15% increase in meter revenue. With no adjustment in the meter rate, the Parking Program would incur the increased costs associated with operating and maintaining the higher technology meters, resulting in a net decrease in revenue in excess of $80,000 annually. Factoring in potential revenue with 56 new meters on Almaden Blvd. would still result in a net decrease in revenue of approximately $15,000 annually. Additionally, there would be no recovery of the capital costs associated with the meter upgrade.

A meter rate increase to $2 per hour would result in an estimated net revenue increase of $700,000 annually; $800,000 annually with new meters on Almaden Blvd. A summary of the capital installation costs and revenue estimates is highlighted in the following table:

Downtown Core Smart Meter Net Revenue Estimate

	Current Rate $1.00/hr	Proposed Rate $2.00/hr
Downtown Core [1] (1,122 Meters) Revenue	$ 1,400,000	$ 2,100,000
Meter Technology Addt'l Revenue (+ 15%)	$ 210,000	$ 315,000
Total Revenue	**$ 1,610,000**	**$ 2,415,000**
Technology Expense	$ (212,000)	$ (212,000)
Credit Card Merchant Expense [2]	$ (32,000)	$ (48,000)
Battery Replacement Due to Pay-by-Phone [3]	$ (50,000)	$ (50,000)
Net Change from Current Revenue [4]	**$ (84,000)**	**$ 705,000**

[1] $2.1M revenue estimate factors in a 25% potential shift in demand (e.g. where people park)

[2] Assumes fee of 5% of transaction amount based on 40% of transactions by credit card

[3] Expense includes cost of battery replacement (labor and materials)

[4] Excludes revenues associated with new meters on Almaden Blvd. between Santa Clara and San Carlos

The 13-14 Adopted Budget includes $900,000 in the Parking Capital Improvement Program for the meter upgrade project. Expanding the scope of the Smart Meter project to include sensors on all spaces and to incorporate meters on Almaden Blvd would require an additional allocation to the project. This allocation would occur by re-scoping or deferring other capital projects, or drawing from fund balance.

As discussed with the DPB over the past year, the expenditure of Parking Funds on a broad scale implementation of Smart Meters is only practical if the increased operational costs associated with Smart Meters are supported by increased revenues in the Parking System, and there was a reasonable payback on the capital costs.

The last meter rate increase in the Downtown Core was implemented in 2002. If Smart Meters are installed, Staff recommends a meter rate increase from $1 per hour to $2 per hour for all meters in the Downtown Core. The new rate is expected to encourage turnover and create more open parking spaces in prime on-street parking areas, cover all operating costs of the Smart Meters, and provide for recovery of the capital costs within a two-year period. Afterwards, the additional meter revenue would enhance the ability of the Parking Fund to support future debt service payments of the 4th/San Fernando Garage. Although a $2 per hour meter rate would remain significantly lower than most off-street facilities, it would be a step towards recognizing the premium value of the on-street parking space.

Extended Hours of Operation

As noted in the pilot results, the meter locations with sensors averaged over 80% occupancy throughout the week between 9 AM and 8 PM. Parking occupancy of metered spaces in many areas of the Downtown Core during the evening showed similarly high occupancy. Staff believes it would be appropriate to extend the operating hours, from 6 PM to 8 PM, of the meters in the interior portion of the Downtown Core bounded by St. John St., Market St., San Carlos St.,

and Highway 87 (Attachment C). There are 388 meters in this area that is in close proximity to the Arena, Convention Center and other cultural facilities that provide highly sought after premium parking by visitors to Downtown businesses and/or attendees of Arena, Convention and various cultural events. During Sharks games and major Arena events these spaces are 95-100% occupied. Extending the hours of operation of this on-street parking supply would improve the availability of this premium parking for visitors and event patrons. With the ability to obtain free validated parking for most evenings in the City's main garages, providing free parking on-street is not necessary, and does not reflect the premium value of this parking. Free on-street parking would remain available on the perimeter of the area with extended operating hours.

Staff would like feedback from the DPB on whether this proposal should move forward, and if so, under what parameters. For example, should the meters be in effect every evening or only during major events? Should the rate charged be consistent with the hourly rate applied during the day, or a flat rate for the entire event?

Extending the hours of operation in the Downtown Core Interior is estimated to generate an additional $150,000 per year.

Mobile Payment Options

Pay-by-Cell technology enables the payment of parking via a smart phone "app" and mobile device, in lieu of coins or credit/debit cards. Mobile payments are typically conducted via smart phones using a third party app created and managed by a mobile payment service. Customers use the app or an 800 number to input their space number and the amount of time they want to park. The customer is typically charged a convenience fee ranging from $0.35 to $0.50 in addition to the hourly parking meter rate.

Pay-by-Cell mobile payment technology is used in some cities (such as: Oakland, Seattle, Walnut Creek, Redwood City, and San Francisco), and not in others (such as: Sacramento, Berkeley, San Diego, Portland, and Santa Monica). Of those cities using the service, San Francisco reported the highest use at approximately 6% of total transactions. Most cities that do not currently offer the service are reviewing the future potential of Pay-by-Cell. Santa Monica recently cancelled this payment option due to lack of usage (less than 1% of transactions) and operational costs that were primarily associated with the need to more frequently replace batteries due to the continuous wireless transmission of payment data to the meter.

Regardless of the experience in some of the benchmarked cities, staff proposes that a roll-out of Smart Meters in San Jose include a Pay-by-Cell pilot to provide for an assessment of the customer benefits, usage and any operational impacts of this payment option in San Jose's Downtown area. Mobile payment technology could support the remote payment of meters when the customer's parking stay needs to be extended, and would help promote a friendly Downtown with another payment option. The procurement specifications for Smart Meters will require compatibility with Pay-by-Cell technology and for the mobile payment information to be wirelessly transmitted and displayed on the meter. Providing a mobile payment option on all meters is anticipated to incur an estimated additional annual expense of approximately $50,000.

Convention Center Meter District

With limited on-site parking supply, the parking demand for Convention Center events is frequently met through the parking supply at other public and private facilities in the vicinity of the Convention Center. To better serve Convention Center patrons and to maximize parking options, staff proposes installing 50 new on-street parking spaces on Almaden Blvd. between San Carlos St. and Woz Way. As these spaces would primarily serve the Convention Center, staff proposes establishing a new meter district in the Convention Center area (Attachment C), and that multi-space pay stations be primarily utilized in this district. Six pay stations would be installed to serve the 50 metered spaces on Almaden Blvd and 13 existing metered spaces on Woz Way at a cost of approximately $50,000. Staff proposes that the on-street meter rate at these pay stations be consistent with the flat rate in effect at the Almaden/Woz and South Hall Lot, which is generally $7 per day. To provide flexibility in setting rates for a wide variety of events, staff also proposes that a range of rates between $0 to $25 per day be established for the multi-space pay stations in this meter district. The estimated annual net revenue associated with the new meters near the Convention Center and the modified rate structure is $50,000.

Flexibility would need to be included in the Convention Center Meter District rates to provide staff with the ability to retain the hourly rate structure in place for the single space meters adjacent to the Children's Discovery Museum and for the meters on Viola Avenue.

Summary of Rate Modification/Operational Changes

The operational impacts of the various recommendations contained in this report and a potential expansion of the meter hours of operation in a portion of the Downtown Core is summarized in the table below:

Smart Meter / Pay Station Locations	**Current Rate $1.00/hr**	**Proposed Rate $2.00/hr**
Downtown Core (1,122 Meters) Revenue Estimate	$ 1,610,000	$ 2,415,000
Net Change from current Revenue	**$ (84,000)**	**$ 705,000**
Almaden Blvd (56 Meters) Revenue Estimate	$ 0	$ 0
Net Change from current Revenue	**$ 65,000**	**$ 100,000**
Extended Hours (388 + 56 Meters) Revenue Estimate	$ 0	$ 0
Net Change from current Revenue	**$ 85,000**	**$ 150,000**
Convention Center District Pay Stations (63 Spaces)		
Net Change from current Revenue	**$ 50,000**	**$ 50,000**
Total Change from current Revenue	**$ 116,000**	**$ 1,005,000**

While implementing all of the above recommendations does generate net revenue while maintaining the current $1 per hour rate, the limited additional funds do not provide for a reasonable payback of the $1.1 M capital cost associated with a meter upgrade project.

Long Term Debt Management Strategy

A major focus of staff and the DPB over the past year has been on the development of a Long-Term Debt Management Strategy to position the Parking Fund to support additional debt service payments of the 4th/San Fernando Garage. At this time it is unknown to what extent tax increment may be available to support the debt service in the near term beyond FY13-14. In addition to the debt service obligation, the Parking Fund is obligated to maintain the system in good condition, and to provide for all operating expenses of the program. It is important to note that the bond covenants require the City to set on-street and off-street parking rates and charges to cover both the debt service on the garage, and necessary operating and maintenance costs of the Parking System.

The $8.5M in the FY 13-14 Adopted Budget Reserve for Future Debt Service will provide for debt service coverage through FY 15-16. Additionally, although the 13-14 Adopted Budget anticipates that tax increment funds will be available to support $1.6M in debt service, due to the uncertainty of the final outcome and timing of any return of the Public Employees Retirement System and Water District levies withheld by the County in FY 12-13, it is possible that the Parking Fund may be required to make the full $3.3M debt service coverage for the 4th/San Fernando Garage in FY 13-14.

In addition to supporting improved customer access and convenience in parking Downtown, the Smart Meters provide the opportunity to generate additional revenues to enhance the Parking Fund's ability to support future debt obligations of the 4th/San Fernando Garage.

POLICY ALTERNATIVE

Alternative #1: Implement a $1.50 meter rate initially, with a subsequent programmed rate adjustment to $2.00 on January 1, 2016.

Pros: A modest rate increase would be received more favorably by Downtown Core businesses.
Cons: The Parking Fund remains obligated to pay the debt service of the 4th and San Fernando Garage. Implementing a $1.50 rate per hour would take almost three years to recover the capital cost. Implementing a second rate increase within two years may be perceived more negatively than a single rate increase. A $1.50 rate per hour does not adequately recognize the premium nature of the on-street parking spaces.

NEXT STEPS

The City needs to go through a Request for Proposal (RFP) process to purchase Smart Meters. Staff has initiated drafting the specifications for the RFP, which is scheduled to be advertised in September and awarded in December, providing for the installation of Smart Meters early 2014. DOT staff will conduct outreach with key stakeholders in the Downtown concurrent with the RFP process.

ATTACHMENT A

Meter Technology Pilot Area

Time Limit	# of Meters
30 Min	14
60 Min	12
120 Min	35

- Sensored Spaces (Qty 20)
- Unsensored Spaces (Qty 41)

ATTACHMENT B

SMART METER PILOT CUSTOMER SURVEY

Following are the questions and results of the 92 customer surveys:

1. On average, how often do you park at downtown parking meters?

   - 36% - Less than once a month
   - 25% - Once a month
   - 18% - Once a week
   - 9% - 2 to 3 times per week
   - 12% - Over 3 times per week

2. Please rank the ease of use of the Smart Meters?

   The average score was 1.3 with 1 being Easy and 5 being Difficult

   - 60% - Rated 1
   - 21% - Rated 2
   - 10% - Rated 3
   - 0% - Rated 4
   - 8% - Rated 5

3. What is your payment preference?

   - 64% - Coins
   - 36% - Credit/Debit Cards
   - 0% - Pay by Phone

4. Would you like to see these meters installed in other areas?

   - 87% - Yes
   - 13% - No

5. Did you use Credit/Debit Card for Payment

   - 18% - Yes
   - 82% - No

6. How would you rate your satisfaction with the Smart Meter?

   - 40% - Very Satisfied
   - 47% - Satisfied
   - 12% - Neutral
   - 1% - Unsatisfied

ATTACHMENT C